

Trying to measure the use of unallocated address space

...and some other news

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Manager, Number Resources – IANA

Overview

- ▶ What's the problem?
- ▶ What are we trying to measure?
- ▶ What does it not measure?
- ▶ What are the results?
- ▶ What else?
- ▶ IANA News
- ▶ IDNs

Define the problem

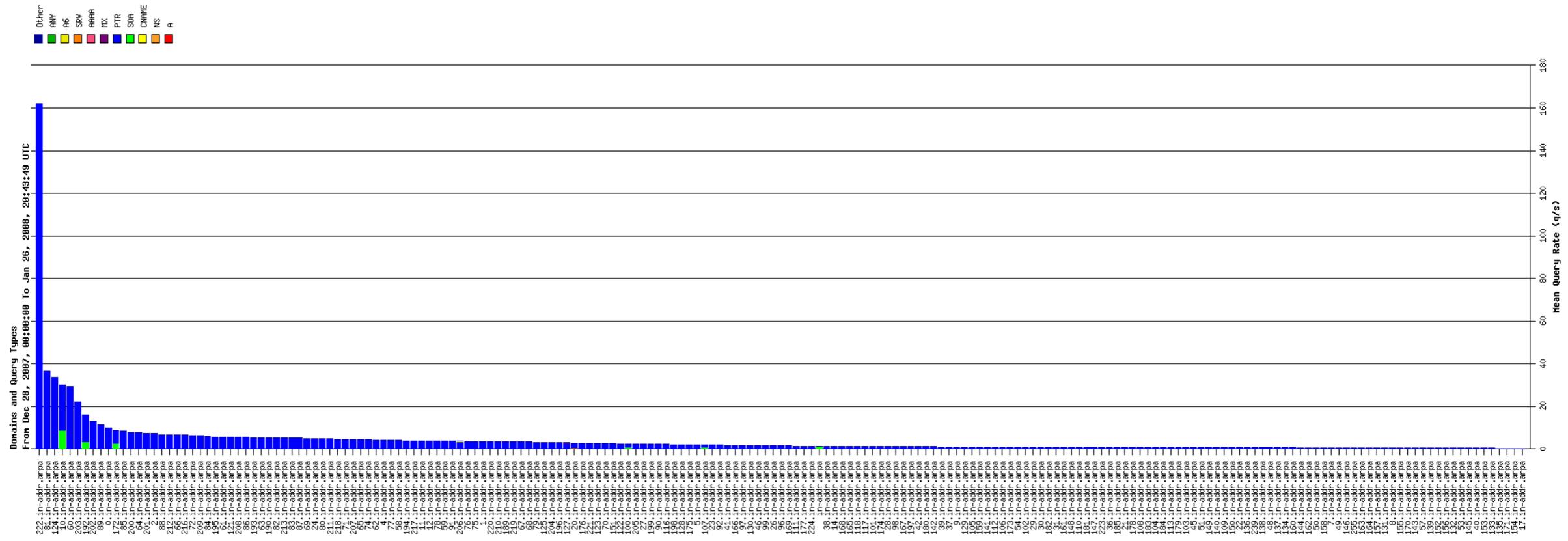
- ▶ All unallocated unicast space will be allocated
- ▶ Some networks and services already use this space
- ▶ <http://www.uknof.org.uk/uknof8/Vegoda-Unallocated.pdf>

What are we trying to measure?

- ▶ PTR queries received at root DNS servers where the IPv4 address is not part of an allocated /8

What can't we measure?

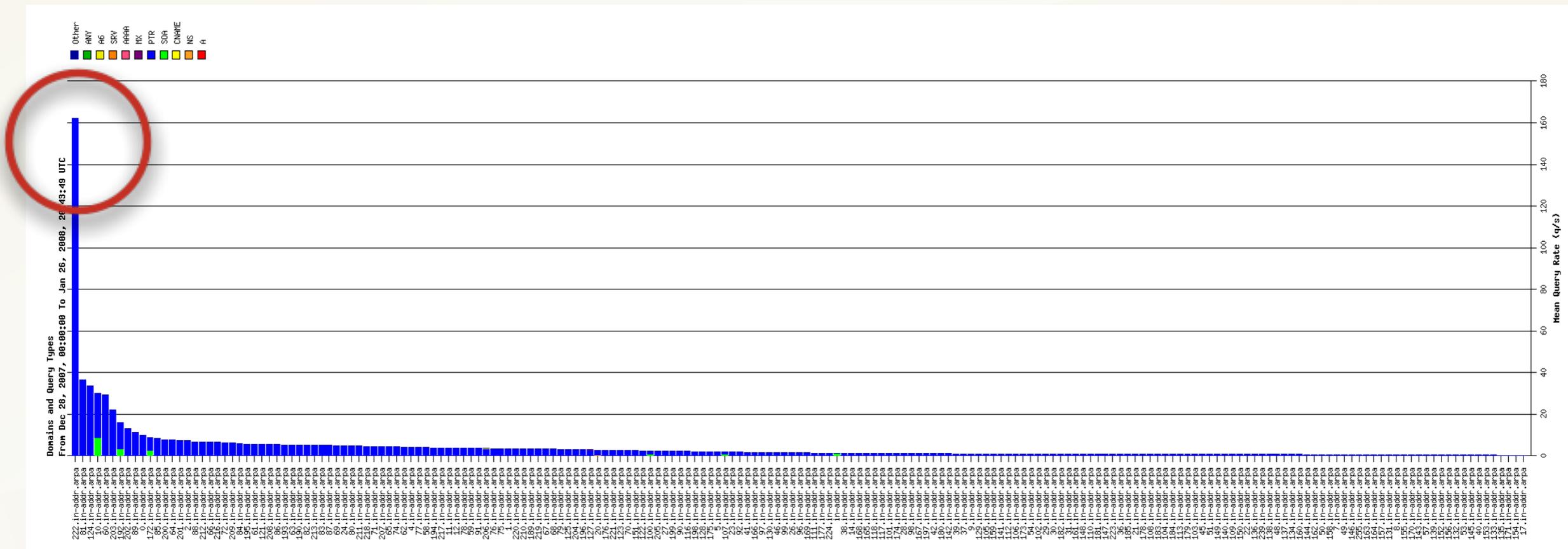
- ▶ Usage by otherwise well run sites using unallocated space
 - ▶ Split-horizon DNS
 - ▶ Egress filters



What are the results?

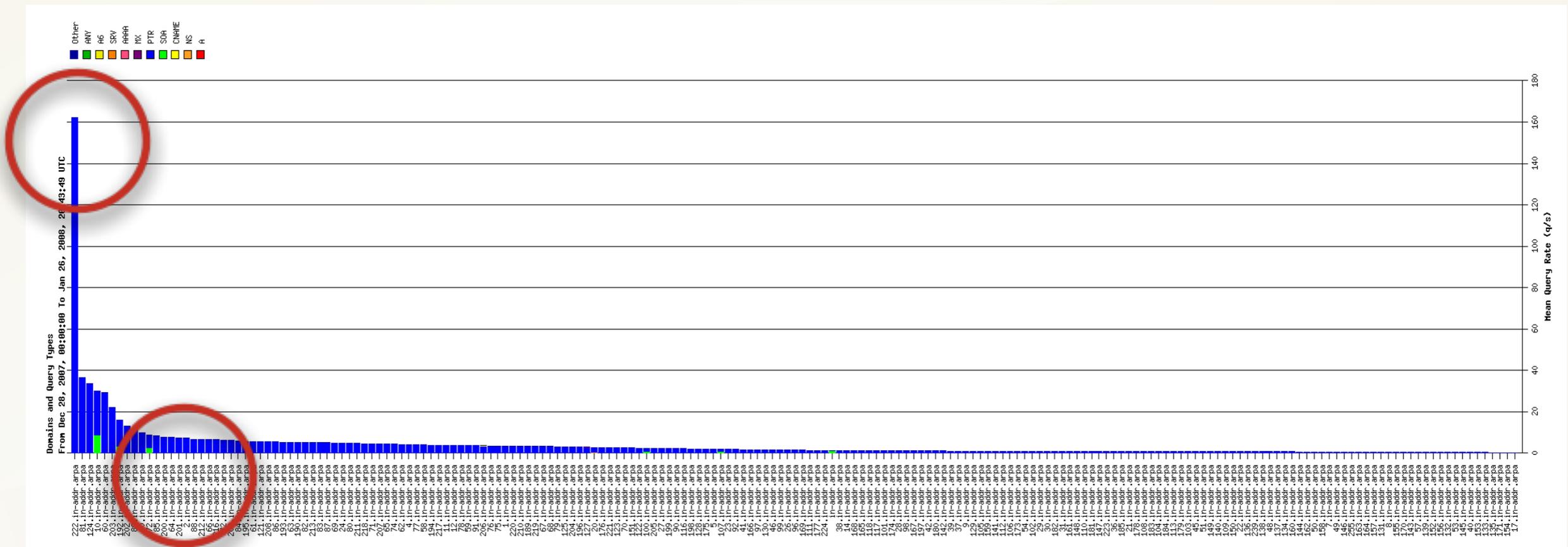
- ▶ Let's look at the distribution for all /8s





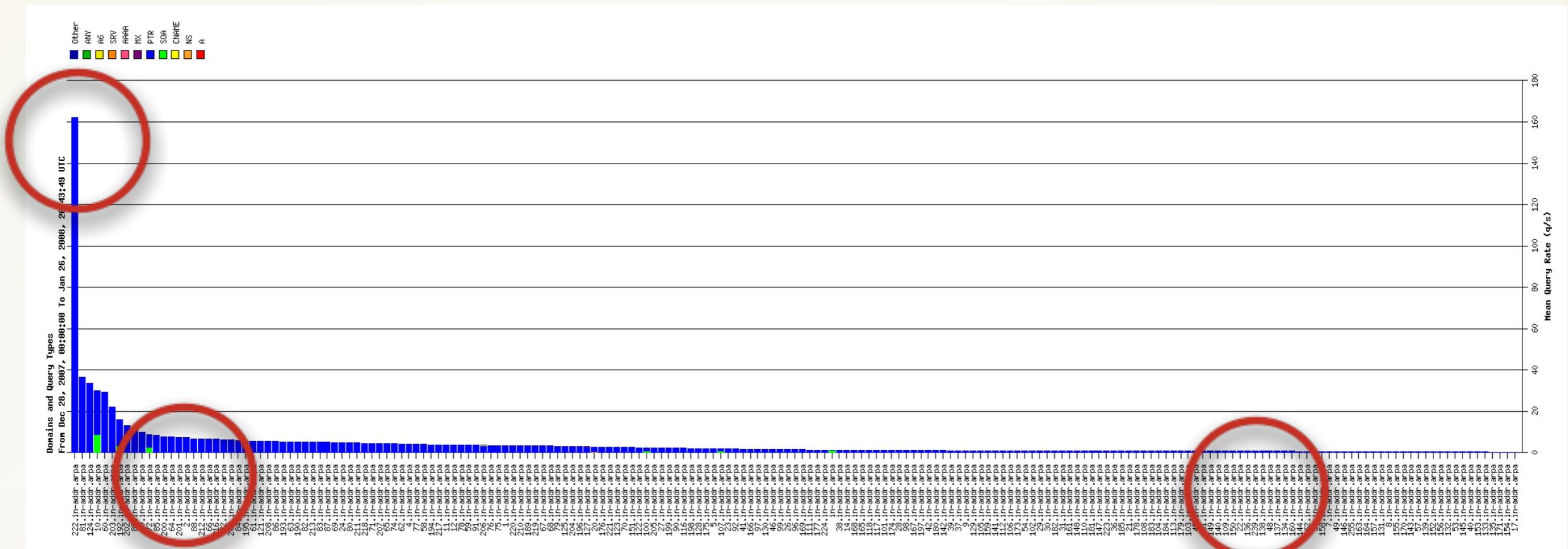
What are the results?

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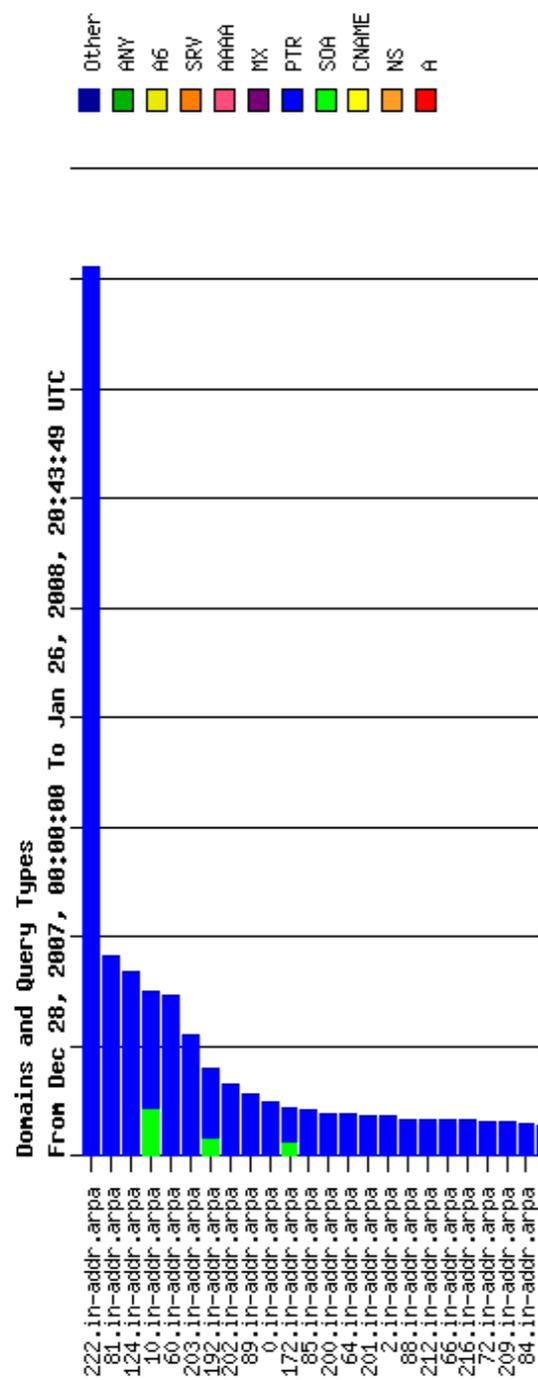
What are the results?

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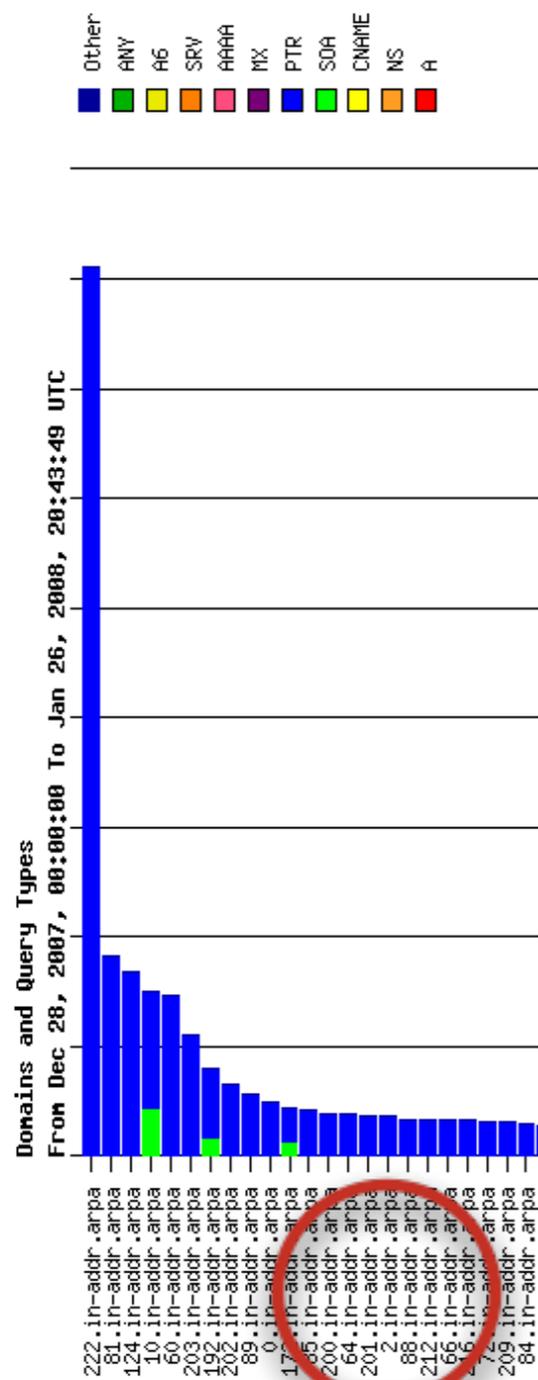


What are the results?

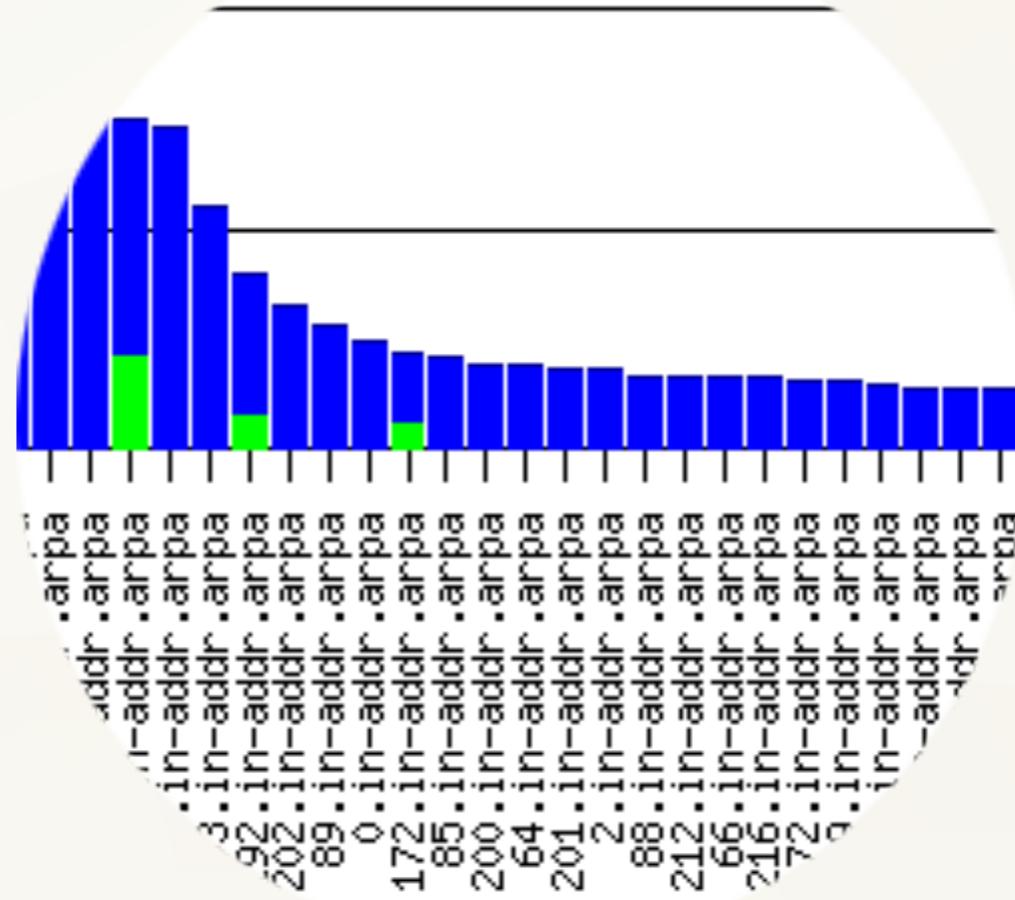
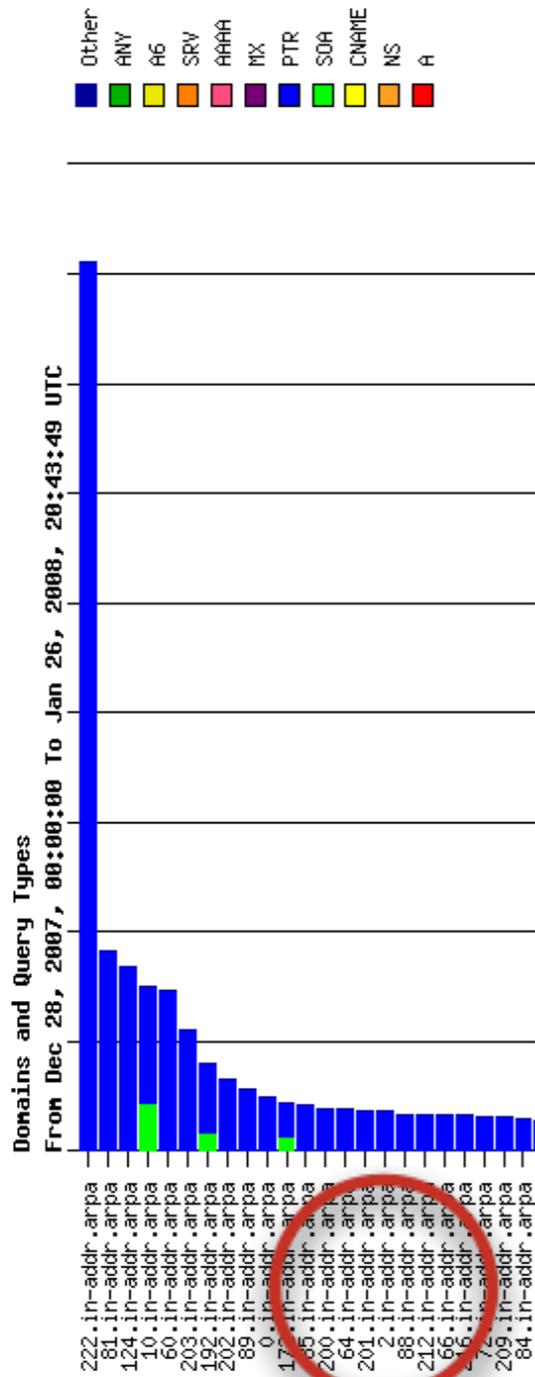
- ▶ Let's look at the distribution for all /8s



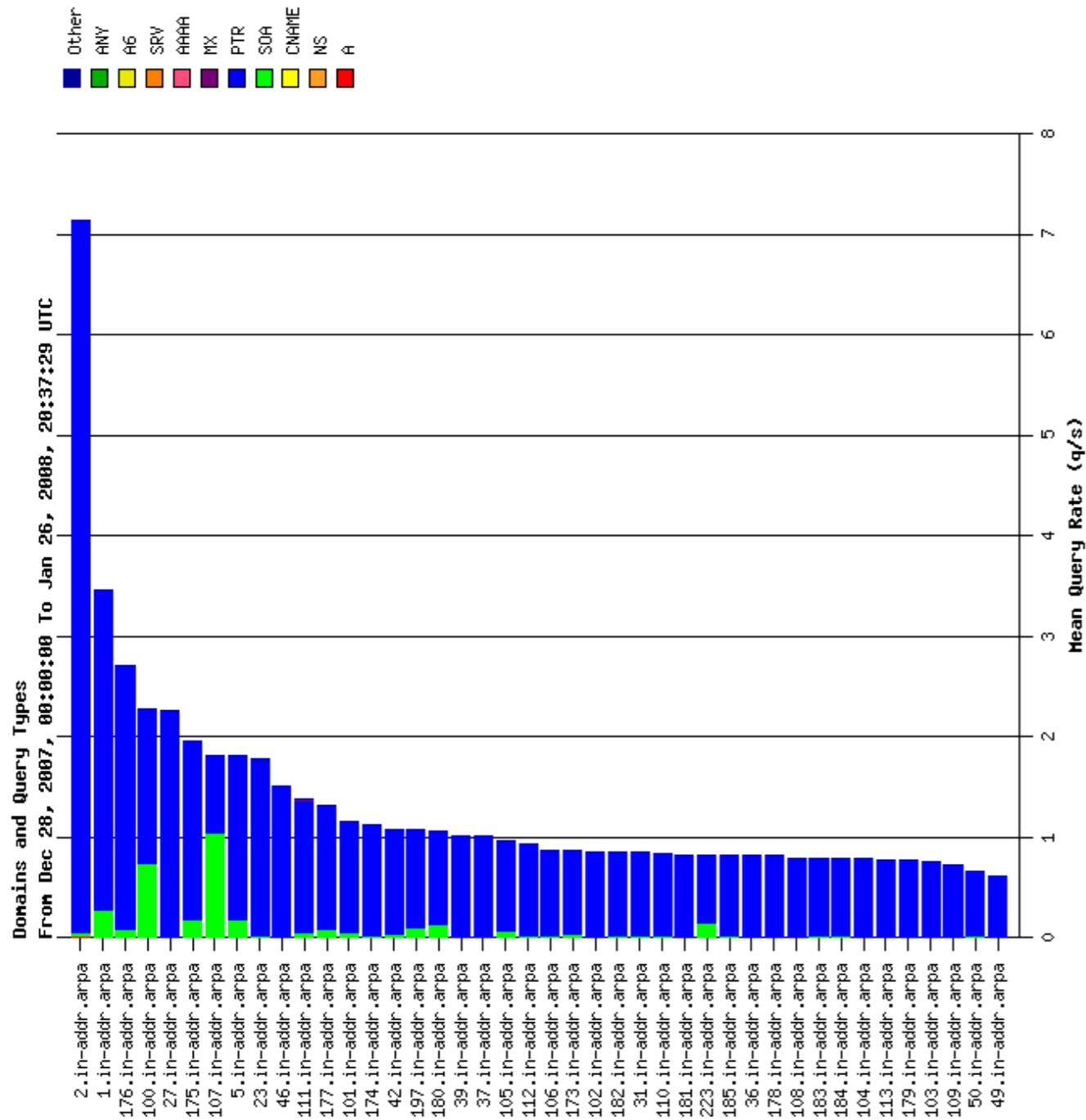
A closer look



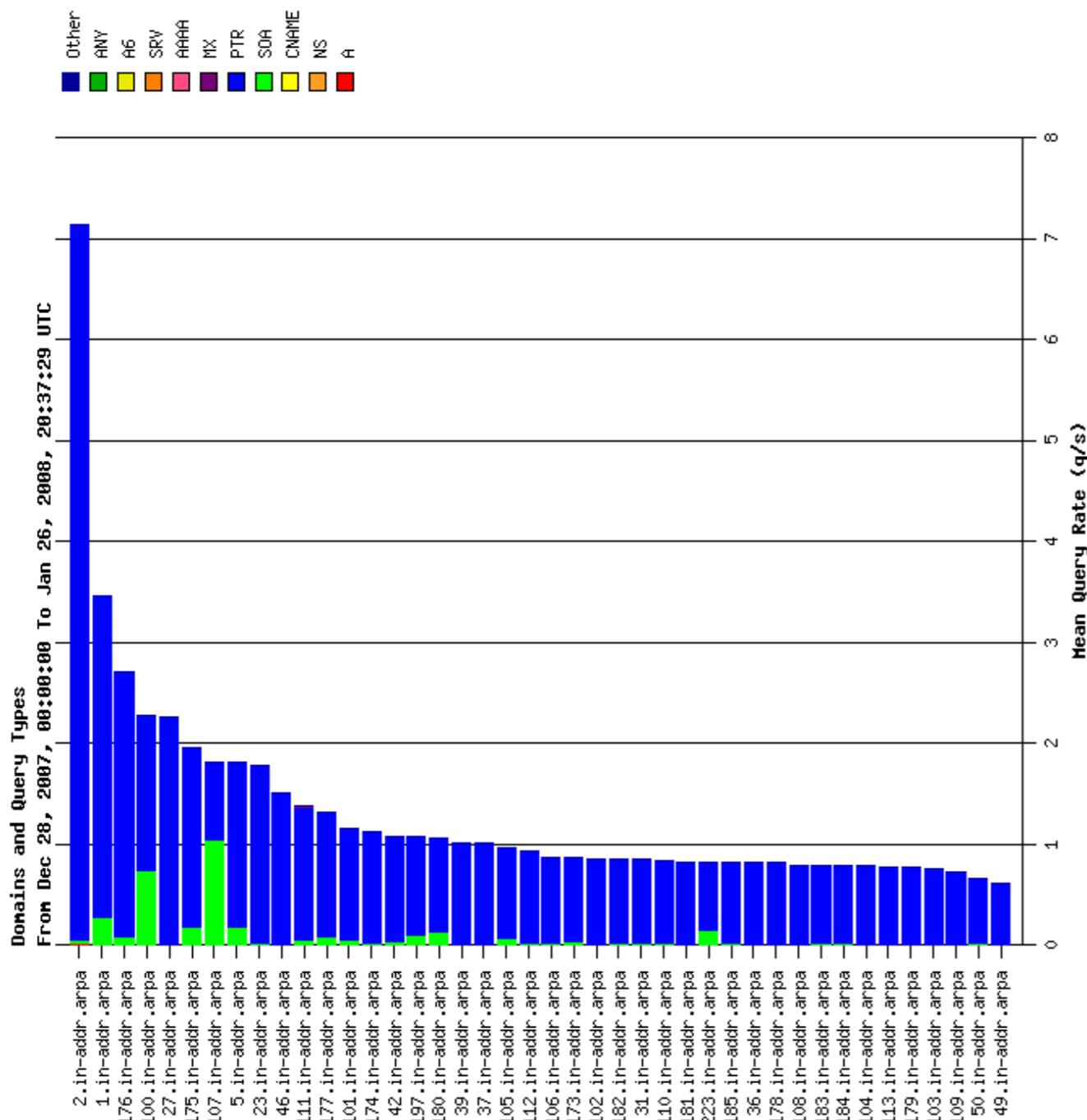
A closer look



A closer look



Query distribution over 30 days



- ## Top 10
- 1 2.in-addr.arpa
 - 2 1.in-addr.arpa
 - 3 176.in-addr.arpa
 - 4 100.in-addr.arpa
 - 5 27.in-addr.arpa
 - 6 175.in-addr.arpa
 - 7 107.in-addr.arpa
 - 8 5.in-addr.arpa
 - 9 23.in-addr.arpa
 - 10 46.in-addr.arpa

Query distribution over 30 days

But that was just L-root

- ▶ The technique seems to work
 - ▶ Data from other root server operators would give a broader picture
 - ▶ More analysis would be useful

Moving on...



(((BREAKING NEWS)))

- ▶ 14.0.0.0/8 reclaimed in January
 - ▶ 43 /8s remain in IANA free pool
- ▶ IPv6 for root DNS servers
 - ▶ F, H, K and M
 - ▶ 4 February 2008

IDNs

Test IDN TLDs and the IDN wiki

- ▶ Application testing
- ▶ Registry applicant testing



Script	Language	SLD.TLD U-labels	SLD A-label	TLD A-label
Arabic	Arabic	مثال.إختبار	xn--mgbh0fb	xn--kgbechtv
Arabic	Persian	مثال.آزمایشی	xn--mgbh0fb	xn--hgbk6aj7f53bba
Chinese, simplified	Chinese	例子.测试	xn--fsqu00a	xn--0zwm56d
Chinese, traditional	Chinese	例子.測試	xn--fsqu00a	xn--g6w251d
Cyrillic	Russian	пример.испытание	xn--e1afmkfd	xn--80akhbyknj4f
Devanagari	Hindi	उदाहरण.परीक्षा	xn--p1b6ci4b4b3a	xn--11b5bs3a9aj6g
Greek	Greek	παράδειγμα.δοκιμή	xn--hxajbheg2az3al	xn--jxalpdlp
Hangul	Korean	실례.테스트	xn--9n2bp8q	xn--9t4b11yi5a
Hebrew	Yiddish	טעסט.פּרײַב	xn--fdbk5d8ap9b8a8d	xn--deba0ad
Kanji Hirigana, and Katakana	Japanese	例え.テスト	xn--r8jz45g	xn--zckzah
Tamil	Tamil	உதாரணம்.பரிட்சை	xn--zkc6cc5bi7f6e	xn--hlcj6aya9esc7a

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Arabic	Persian	مثال.آزمایشی	xn--mgbh0fb	xn--hgbk6aj7f53bba
Chinese, simplified	Chinese	例子.测试	xn--fsqu00a	xn--0zwm56d
Chinese, traditional	Chinese	例子.測試	xn--fsqu00a	xn--g6w251d
Cyrillic	Russian	пример.испытание	xn--e1afmkfd	xn--80akhbyknj4f
Devanagari	Hindi	उदाहरण.परीक्षा	xn--p1b6ci4b4b3a	xn--11b5bs3a9aj6g
Greek	Greek	παράδειγμα.δοκιμή	xn--hxajbheg2az3al	xn--jxalpdlp
Hangul	Korean	실례.테스트	xn--9n2bp8q	xn--9t4b11yi5a
Hebrew	Yiddish	בושט.לױפֿט	xn--fdbk5d8ap9b8a8d	xn--deba0ad
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Αρχική σελίδα - IDNwiki

http://ελληνικά.idn.icann.org/Αρχική_σελίδα

Αρχική σελίδα

Πίνακας περιεχομένων [απόκρυψη]

- 1 Καλωσορίσατε στην αξιολόγηση παράδειγμα.δοκιμή
- 2 Η συμμετοχή σας είναι σημαντική!
- 3 Τι πρέπει να τεθεί υπό δοκιμή
- 4 Συμπληρωματικές πληροφορίες

Καλωσορίσατε στην αξιολόγηση παράδειγμα

Καλωσορίσατε στην περιοχή αξιολόγησης για μια από τις κορυφο νέου IDN. Τα υπό δοκιμή IDN, που αντιπροσωπεύουν το όνομα πα έντεκα διαφορετικές γλώσσες, στοχεύουν εξ ολοκλήρου στο IDNw σημαίνει ότι η πληκτρολόγηση του IDN στο πρόγραμμα περιήγηση κλικ σε σύνδεσμο IDN σας έφερε σ' αυτήν την περιοχή αξιολόγηση που πλοηγηθήκατε στην Ελληνική περιοχή του!

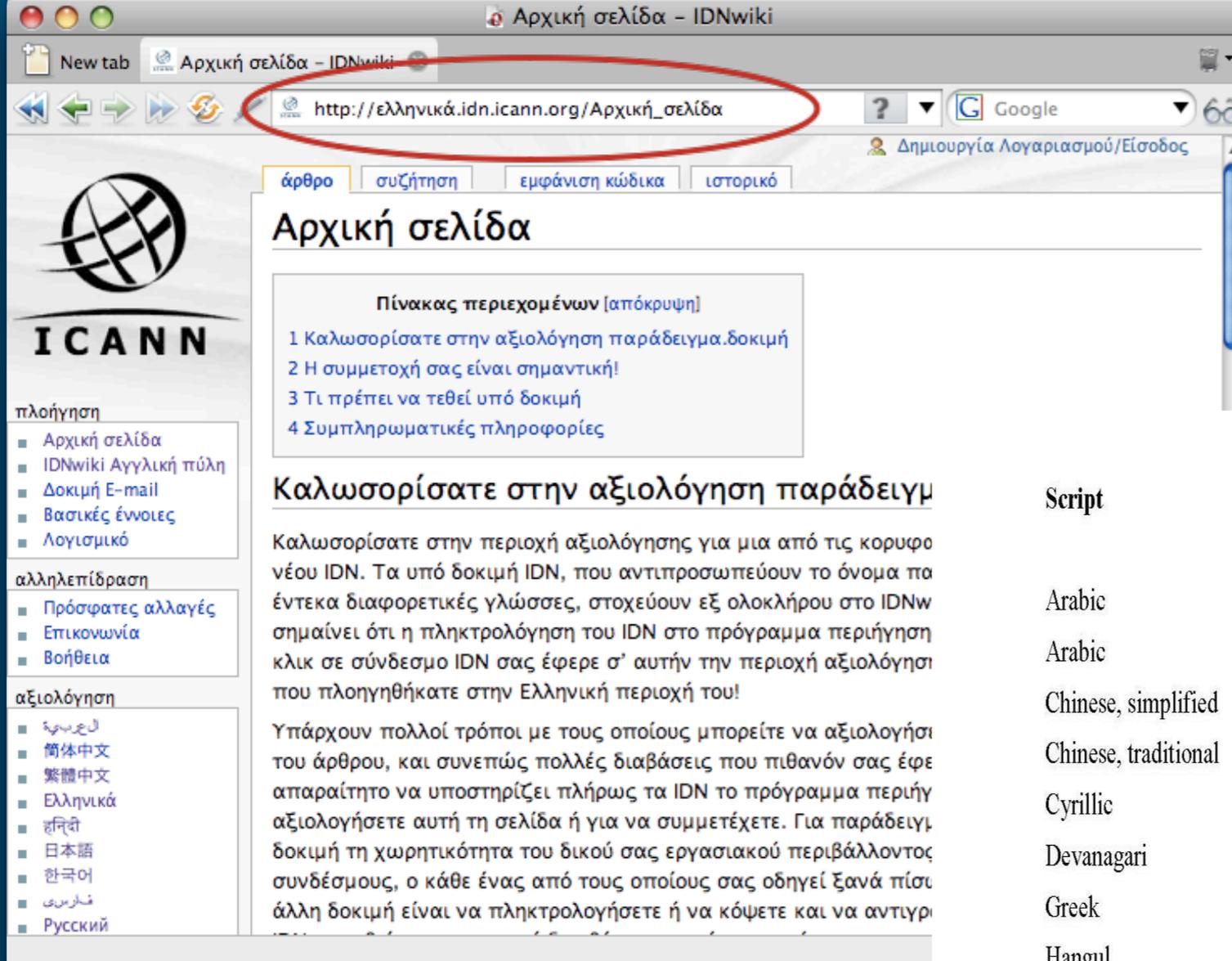
Υπάρχουν πολλοί τρόποι με τους οποίους μπορείτε να αξιολογήσι του άρθρου, και συνεπώς πολλές διαβάσεις που πιθανόν σας έφε απαραίτητο να υποστηρίξει πλήρως τα IDN το πρόγραμμα περιήγ αξιολογήσετε αυτή τη σελίδα ή για να συμμετέχετε. Για παράδειγμα, δοκιμή τη χωρητικότητα του δικού σας εργασιακού περιβάλλοντος συνδέσμων, ο κάθε ένας από τους οποίους σας οδηγεί ξανά πίσω άλλη δοκιμή είναι να πληκτρολογήσετε ή να κόψετε και να αντιγράψετε...

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Greek	Greek	παράδειγμα.δοκιμή	xn--hxajbheg2az3al	xn--jxalpdlp
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Hebrew	Yiddish	בײַשפּיל.פּרײַבײַש	xn--fdbk5d8ap9b8a8d	xn--deba0ad
Kanji Hirigana, and Katakana	Japanese	例え.テスト	xn--r8jz45g	xn--zckzah
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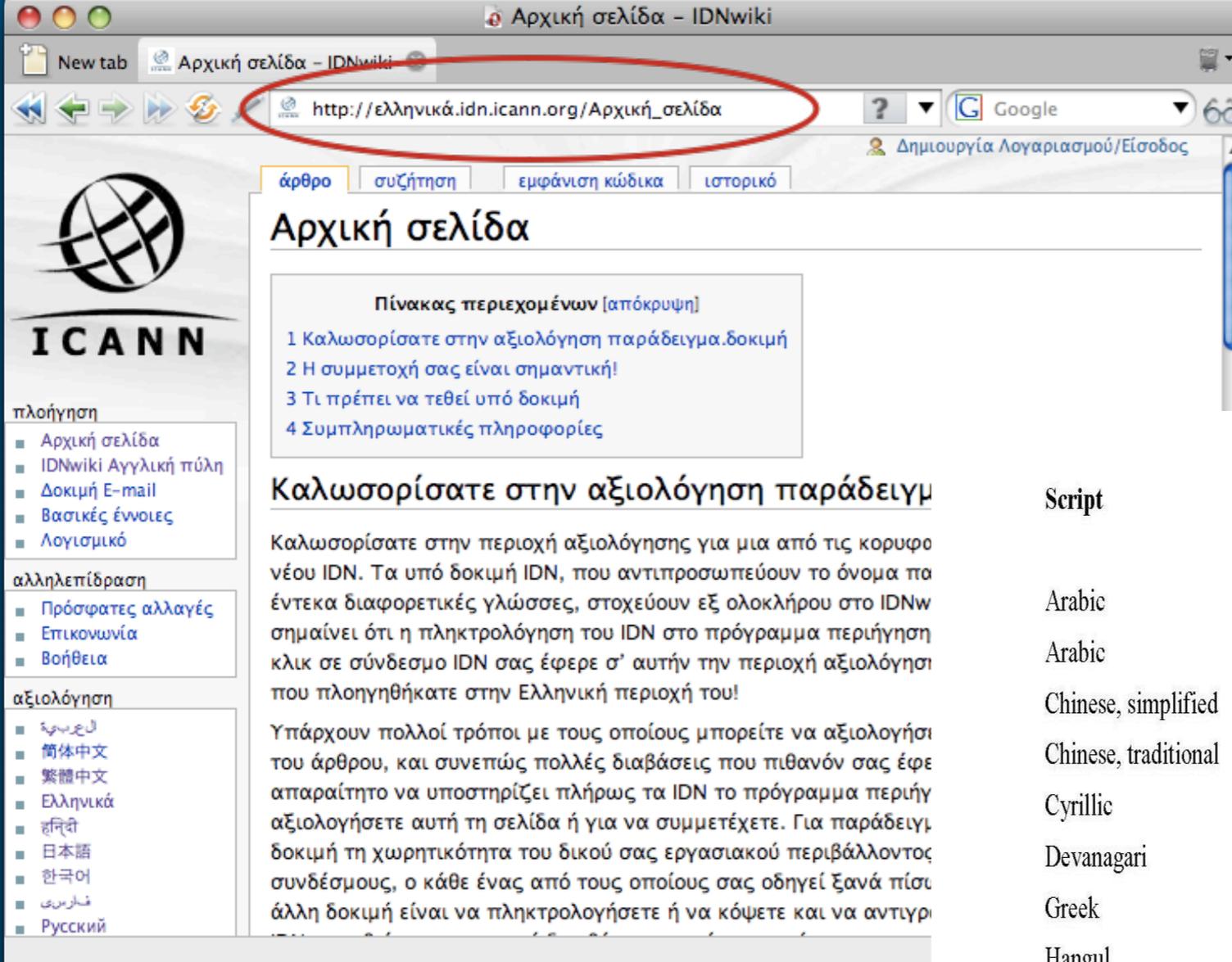
45,000 page views on 1st day

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45,000 page views on 1st day

Almost 500,000 page views so far

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IDNwiki test results

- ▶ Browsers work but need tweaking
- ▶ Word & PDF keep formatting and URL links OK
- ▶ E-mail
 - ▶ formatting lost but functionality remains
 - ▶ protocol support in development
 - ▶ draft-ietf-eai-framework-05.txt
 - ▶ <http://www.icann.org/topics/idn/>

TLD Allocation Policies & Processes

- ▶ ccTLDs match the ISO3166 list
- ▶ New gTLDs introduced by application
- ▶ Neither fits IDNs well
- ▶ ICANN staff does **not** set policies

Planned IDN timeline

Planned IDN timeline

July 2008

*ccNSO Fast
Track
delivers a limited
number of
IDN "ccTLDs"*

Planned IDN timeline

Planned IDN timeline

Q3 2008

*GNSO Fast Track
Applicants able to
submit
expressions of
interest in
IDN "gTLDs"*

Planned IDN timeline

Planned IDN timeline

2013

*Long-term
Policy for IDN
TLDs policy
agreed and in
operation*

Planned IDN timeline

Questions & Answers

